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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/646,202	08/22/2003	Joseph A. Izatt	UNIVP0103USA	9587
7590 11/23/2005				
Jason A. Worgull Renner, Otto, Boisselle & Sklar, LLP Nineteenth Floor 1621 Euclid Avenue Cleveland, OH 44115-2191		EXAMINER CONNOLLY, PATRICK J		
		ART UNIT 2877 PAPER NUMBER		
DATE MAILED: 11/23/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/646,202

Applicant(s)

IZATT ET AL.

Examiner

Patrick J. Connolly

Art Unit

2877

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 August 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11, 13, 14 and 18-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-11, 13 and 14 is/are allowed.
- 6) ☒ Claim(s) 18-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 18 and 23 rejected under 35 U.S.C. 102(e) as being clearly anticipated by U.S. Patent No. 6,134,003 to Tearney et al (hereafter Tearney).

As to claims 18 and 23, Tearney discloses an interferometric system for imaging and sample at a sample location including:

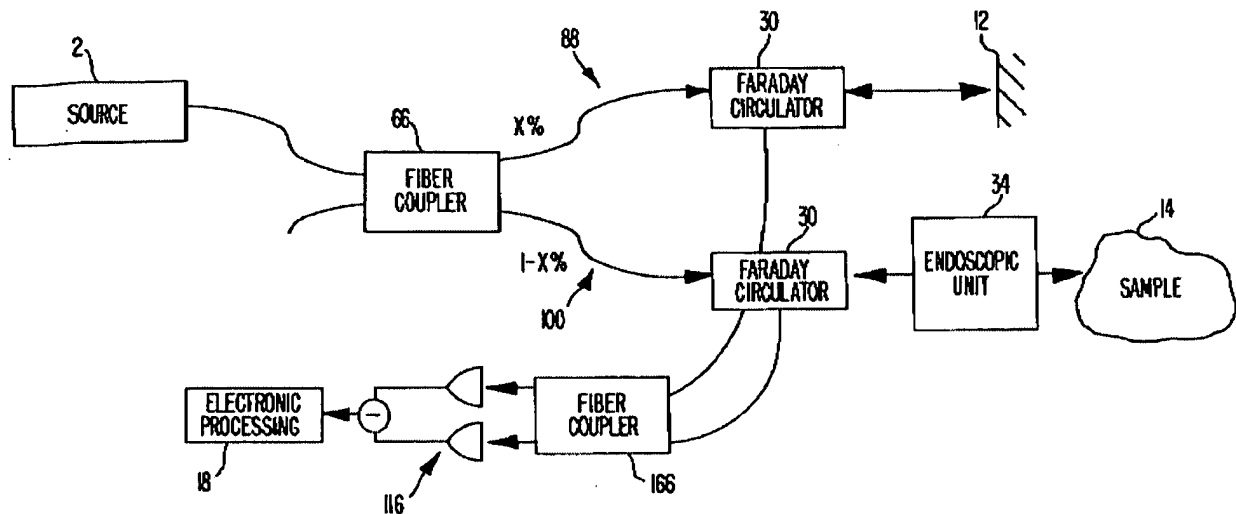


FIG. 3

As to claim 18, Tearney discloses:

an optical radiation source (2), a first beamsplitter (66), an optical circulator (30) and an optical detector (116); a first optical path (100) extending from the optical radiation source through the first beamsplitter, through a first portion of the first optical circulator to a sample location (14), and from the sample location through a second portion of the optical circulator to the detector;

a second beamsplitter positioned between the optical circulator and the optical detector along the first optical path (166); and

a second optical path extending from the optical radiation source to a reference location (12), from the reference location through the first and second beamsplitters to the optical detector.

As to claim 23, Tearney discloses:

a low coherence source (2, see column 5 "Optical Sources")

a pair of beamsplitters (66, 166), the first beamsplitter (66) directing light to and receiving light from the a reference (12) and the second beamsplitter (166) receiving light representative of characteristics of a sample (14) and of such reference and directing such light to a detector; and

a circulator/nonreciprocal optical element (30) receiving light from the first beamsplitter passing light to a sample and receiving light from the sample and passing it on to the second beamsplitter.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 19-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tearney as applied above in further view U.S. Patent No. 5,710,630 Essenpreis et al (hereafter Essenpreis).

As to claims 19-22 Tearney teaches an interferometric system including reflective sample measurements and reflective delay arms (see analysis above).

Tearney does not teach a transmissive sample measurement mode, or a transmissive reference delay element.

Essenpreis teaches an interferometric system for measuring characteristics of biological samples including both reflective and transmissive configurations (see Figures 1 and 3 below).

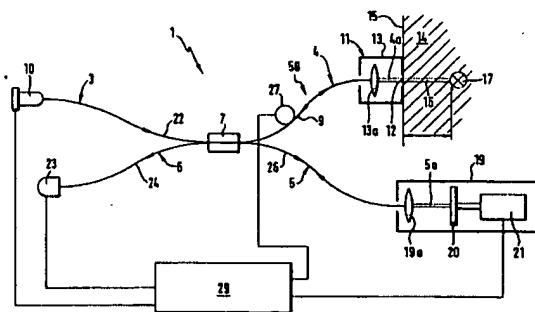


Fig. 1

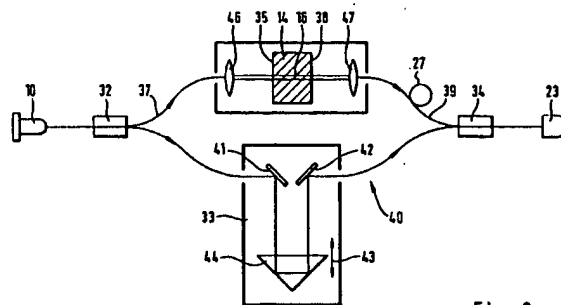


Fig. 3

Essenpreis teaches that transmissive and reflective configurations have respective advantages based upon the dimension of the samples of interest. A thinner sample will give a better transmissive measurement than a thicker sample, while a thicker sample is better measured by a reflective test. (see bottom of column 11, top of column 12).

It would have been obvious to one of ordinary skill in the art at the time of invention to use the transmissive delays and transmissive sample measurement configurations of Essenpreis in combination with the interferometric system of Tearney so as to achieve the most accurate measurements based on sample dimensions.

### *Allowable Subject Matter*

Claims 1-11, 13 and 14 allowed.

The following is an examiner's statement of reasons for allowance:

As to claims 1 and 3, the prior art of record, taken alone or in combination, fails to disclose or render obvious an interferometric system with a single nonreciprocal element and the configuration of the reference path, in combination with the rest of the limitations of claims 1 and 3.

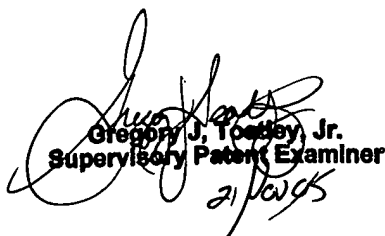
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick J. Connolly whose telephone number is 571.272.2412. The examiner can normally be reached on 9:00 am - 7:00 pm Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gregory J. Toatley, Jr. can be reached on 571.272.2800 ext. 77. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

pjc  
11/16/05

  
Gregory J. Toatley, Jr.  
Supervisory Patent Examiner  
2/16/05